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ABSTRACT

Extremely high failure rates in primary education, negative international comparisons, and extremely limited access to computers are some of the factors that suggest serious problems in Latin American education. There is no evidence that a suitable model is being used to reflect on the quality of education in these countries. Many isolated actions are being carried out in the region, and knowledge is not accumulated in a way policymakers can use easily. Despite this lack of coordination, some promising strategies could be identified for improving academic achievement. Psycho-motor stimulation during early childhood, time spent during first grade to prepare children for formal training, instruction in basic skills, and preparation for living are all strategies that have been proved to reduce first-grade repetition. Applying these strategies to the whole system is suggested as a means to reducing premature negative results. Students' motivation to learn may be fostered by reducing their early failure. Several strategies for extending the school year combat economic pressure on students, government regulations, and teacher work traditions. Many strategies discussed have no, or very low, costs associated with them, making it more realistic for policymakers to raise the quality of education. (LAP)

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IIEP Research Report No. 86

Basic elements to reflect on the quality of education in the Latin American context

by Ernesto Schiefelbein

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Basic elements to reflect on the quality of education in the Latin American context

E. Schiefelbein

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Basic elements to reflect on the quality of education in the Latin American context

The reasons why I feel Latin American countries should be concerned about the quality of education are analyzed in this paper in an attempt to answer the following five questions: (i) Are the countries really worried about quality of education?; (ii) Are they using the right model to review quality?; (iii) Are policy-makers using the most relevant information available?; (iv) Are planners focusing their attention on the right quality problems?; and (v) Do the countries have mechanisms to design efficient policies?

1. Why it is urgent that Latin American countries reflect on the quality of education

Although there are positive trends as regards access, coverage and average school attendance rates, several indicators suggest that there are serious quality problems all over the region and that the international gap on quality may be widening. Most Latin American countries are now providing access to some 90 to 100 per cent of each new population group reaching school age; permanently low drop-out rates (3% - 5% on average in the initial grades) lead to an 80 per cent coverage of the 7-12 year-old group; and a newcomer will probably remain in school for some five to seven years.[1] These indicators show that the region has

1. E. Schiefelbein. *Repetition rates: the key issue in South American primary education.* The World Bank, LATHR Division, Washington, November 1988.

succeeded in providing universal access, wide coverage and a minimum amount of schooling, and that now the population has a good educational base, the way is now open for further improvements in the future.

However, extremely high failure rates in primary education, wide dispersion of national exam results, negative international comparisons, and extremely limited access to computers, suggest serious quality problems in Latin American education. Some 30 per cent of primary students repeat and around 45 per cent repeat first grade (35% if Brazil is excluded). Repetition rates are even much higher (close to 50%) in rural and marginal urban areas. The total cost of repeating grades in Latin American primary education is estimated at more than one billion dollars per year.[2] In addition, tests carried out in primary, secondary and at the entrance to higher education in several countries (Brazil, Colombia, Costa Rica, Chile, and Venezuela) have also shown wide disparities between the results obtained in wealthy and poor areas. On the international side, the IEA comparative studies have shown wide gaps in mathematics and other subjects between Latin America and developed countries.[3] Finally, while students in developed countries are learning by doing computer languages and will be ready to deal with the challenges of the 21st century, few Latin American students have access to, or even see, a computer. In short, both as regards wastage of time and resources as well as knowledge required to participate in future economic activities, the quality of education in Latin America must be quickly raised. Bearing in mind this brief positive answer to the main issue of this paper, we shall now attempt to answer the other five questions raised.

2. *Are countries really worried about quality of education?*

Although there are many statements about the need to raise educational levels and important activities have been undertaken, there is also evidence that the gravity of the problem is underestimated.

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2. *Ibid.*

3. E. Schiefelbein and J. Simmons. *The determinants of school achievement: a review of 2the research for developing countries.* International Development Research Centre, IDRC-MR9, Ottawa, May 1979.

Ministers of Education have chosen the quality of education as one of the three areas deserving special attention in the present Major Project for Latin America, and many experiments and pilot projects aiming to improve the quality of education have been carried out in Latin America in the last three decades.[4] For example, 26 per cent of the near 500 Mexican research projects sponsored by the Mexican government, aimed at improving the quality of education.[5] Among important activities carried out to improve quality, the distribution of textbooks is paramount and advances in bilingual education are probably a close second; massive teacher training and retraining is also a sign of interest in quality, but due to the use of traditional formalistic models (with few exceptions such as the methods used by the *escuela nueva* in Colombia), the effects sought by governments are not being attained. The support given to research and the exchange of research results in a regional network such as REDUC (financed by both the public and the private sectors) are additional signs of the interest in quality. Finally, the massive testing of quality carried out in several countries mentioned above, is yet another example of increased interest in the topic.

All these positive activities have been undertaken regardless of misleading information and a certain lack of first-hand knowledge of the situation. Although many students not present at final examinations are enrolled the following year in the same grade, they are generally wrongly counted as drop-outs in the statistics given by the school heads instead of adding them to the total number of repeaters. Research also shows that there are other reasons for underestimating repeaters. This is why the repetition rates eventually published in Statistical Yearbooks are misleadingly low. Therefore, statistics do not indicate to the authorities that problems of poor quality exist. Fortunately secondary and university teachers are generating opinions which, although subjective and misleading (and transformed into misinformation by mass media), call for higher quality. These teachers, who receive students from many

4. A long list of abstracts of reports on these topics is presented in the *Indice Anual de RAEs de la Red Latinoamericana de Documentación en Educación (REDUC)*. See keywords starting with *calidad*, but relevant information may be found in testing, evaluation, and other relevant words.

5. Consejo Nacional de Ciencia y Tecnología. *Plan maestro de investigación educativa*. Mexico, 1981, pg. 57.

schools in a wide catchment area, usually insist that teachers at the lower levels have reduced educational achievement standards. Their opinions are usually based on their own experience and lack an overview of the context. These teachers belong to a very selected group who were well above average students and cannot use their own achievement levels as a standard for present generations. In addition, they studied one or more decades ago, when universal access, commented above, was a far-distant target. Present universal access implies enrolling students from the more deprived families that will perform at lower levels with the same quality of teaching. The expansion of the formal system tends to produce lower educational outputs even if the quality of the instruction and other elements remain constant. In summary, policy-makers have to implement activities directed towards improving the quality of education, in spite of poor information and the lack of first-hand information through their own children's schooling (policy-makers usually send their children to private fee-paying schools and, therefore, do not have the opportunity of learning through their own children the quality problems affecting the public and private free system).

3. Are countries using the right model to review quality?

Some criteria for selecting the right model to review educational quality in Latin America is required. The contribution of such a model should rely "not so much on immediate and specific applications but rather on constructing, or changing the way policy-makers and practitioners think about problems".[6] With few exceptions, such as the Colombian *escuela nueva*, strategies for increasing quality have been designed as rigid sequences or to solve isolated problems,[7] the right model should organize experiments and findings in a simple way and focus on their linkages. I will use, in this case, J. Caroll's model,[8]

6. R. J. Shavelson, "Contributions of educational research to policy and practice". In : *Educational Researcher*, 17(7), October 1988.

7. Many countries have followed sequential strategies, (for example: first curriculum, then textbooks, then teacher training) or concentrated on isolated aspects like bilingual education, multigrades, supervision, decentralization or testing, rather than identifying the best combination for the specific situation that may solve the problem with minimum effort or time.

8. J. Caroll. *A model of school learning*, Teachers College Record, N° 64, May 1963.

because his model meets both criteria. The model allows discussion of five relevant elements (where key factors of achievement detected in recent regional experiments and research findings may be grouped), in terms of the unique contribution of each element (or group of factors) as well as of the combined effects with other elements. The five elements are:

1. Previous training: increasing it will reduce the time needed to learn the next educational task.
2. Motivation of the student: increasing motivation will increase perseverance, i.e. the time the individual is willing to spend learning a given task (ideally to match the time needed for learning the given task).
3. Span of attention, or ability to concentrate on the task, during the time the student devotes to study.
4. Learning opportunities, or the time allocated for learning a task, should at least match the time needed to master the learning task.
5. Quality of instruction: by improving the way in which each task is taught, the learning time needed will be reduced to the minimum and motivation and the span of attention will increase to the maximum level.

These elements may include most determinants or factors of achievement detected in regional research findings, but some determinants of achievement are included in indirect ways. For example, regional research shows that parents' education, timely enrolment, access to television or urban services, and even town size, are key factors of achievement. The effects of parents' education should be taken into account with regard to stimulation given at an early age, as well as motivation, time devoted to study or the quality of instruction. Nevertheless, it is difficult to use the model in terms of probable effects of general massive changes. For example, family support for, and interest in, education will increase substantially in the future. At the present time around 30 per cent of students enrolled in primary education have illiterate parents, but in the next decade that figure will fall drastically to 5 or 10 per cent. The effect of national pedagogical norms, which change the ways in which teachers are trained are also difficult to

analyze with this model. Strategies which are suitable for well-trained teachers may be traumatic for less trained teachers. Similar comments are valid for other factors of achievement.

In conclusion, eventually a better model should be found. Such a model should be used by policy-makers for reflecting on quality problems and feasible alternatives and should therefore include additional information on financing possibilities and corresponding costs of each of the factors or constraints. However, in the meantime, Carroll's model can be used at the moment as a useful tool to review quality problems.

4. Are policy-makers using the most relevant information available?

Relevant experiments related to each of the five elements of Carroll's model will be reviewed in the next sections in order to highlight key alterable factors of achievement and to compare them with the factors outlined in speeches given by educational authorities. Interesting experiments with non formal education are not included here. For instance, the motivation of children from marginal areas (*gamines*) in projects such as *Bosconia* in Colombia or *Mi casa* in Chile,[9] and the use of community volunteers trained on-the-job which might not be feasible in all systems, are not discussed in this paper. Other attempts to improve the quality of the formal system, with, for example, the introduction of ETV in El Salvador, have no clear policy implications and, therefore, are not analyzed either.

Some experiments try to affect two or more of the five elements at the same time. For the sake of simplicity each experiment will be discussed with respect to only one element of the model. Finally, decentralization will be discussed as a separate issue, dealing with the design or implementation of effective policies bearing in mind all possible components of the educational process.

9. Gilberto Bello, "Un ensayo de autoeducación de niños marginados: gamines". In : *Educación Hoy*, vol 3, N° 18, Nov. 1973, pp. 33-58.

a. Strategies for reducing time needed to learn

There is some clear evidence that early stimulation, readiness to learn or previous learning tend to be positively associated with the capacity to master new learning tasks in an easier way.[10] These strategies should be carefully analyzed given that high repetition rates are signalling that crucial quality problems are affecting first grade. But there is also evidence of the impact of the family socio-economic level. Therefore, strategies designed to select students only in terms of their academic ability (such as tracking) are not discussed in this paper, because they discriminate against the lower economic groups. Four strategies aiming to increase the general ability of children, in order to reduce the amount of time required to learn new knowledge, are commented in this section: (i) psycho-motor stimulation during early childhood; (ii) readiness for formal training; (iii) training in basic skills; and (iv) preparation for living (or learning) in a group other than the family and for following behaviour guidelines from teachers.

- *Early stimulation*

Colombian children from marginal areas perform below the average population, but early stimulation combined with suitable nutrition raises their achievement levels up to the American standards.[11]

10. D.P. Weikart and L.J. Schweinhart, "Research report: can pre-school education make a lasting difference results of follow-up through eight grade for the Ipsilanty Perry Pre-school Project?" In : *Bulletin of the High Scope Foundation*, 1977, vol. 14, pp. 111-8. See also: L.J. Schweinhart and D.P. Weikart, "Puede la educación escolar producir una diferencia duradera en el futuro educativo del niño?". In : *Educación Hoy*, año VII, n° 42, 1977

11. McKay H.; McKay, A.; Sinisterra L. *Behavioural interventions: studies with malnourished children*, Western Hemisphere Conference on Assessment of Test of Behaviour from Studies of Nutrition, Puerto Rico, October 1970; "Cognitive Growth in Colombian malnourished preschoolers". In : *Science 200*, 1978; "Improving cognitive ability in chronically deprived children". In : *Science 200*, 1978. "Behavioural interventions: studies with malnourished children: A review of experiences". In *Nutrition, development and social behaviour*, D. J. Kallen (ed), DHEW publication n° NIH-73-242, Washington D. C., U.S. Government Printing Office, 1973. See also: J.B. Toro. "El desarrollo del niño a través de la familia y la comunidad", In : *Educación Hoy*, vol VII, n° 42, 1977, pp. 87-103.

A programme developed in Chile has succeeded in training parents to give their children a systematic early stimulation.[12] Unfortunately no massive applications of these programmes have been attempted and there are no estimates available on the cost of such campaigns.

- *Preschool training provided by parents*

Parents trained in simple stimulation techniques have been effective in improving the readiness of their children for performing at elementary schools. Proper training for parents has led to advances in their children's intellectual level similar to those obtained in kindergartens.[13] with the advantage that parents trained in this way can provide the same stimulation to subsequent children, and parents themselves also benefit.[14] The training given to parents can be a means of preventing many cases of mental retardation,[15] with the result that both, the problems retardation cause in the classroom and the need for subsequent (highly expensive) treatment, can be reduced.

- *Training in basic skills*

Television programmes like *Sesame Street* are effective in acquiring several skills.[16] The mastering of basic skills makes it easier

12. H. Montenegro et al. *CEPED - Informe de actividades 1979*. Santiago, 1980, p. 24.

13. Johana Filp et al., "Educación preescolar en el kindergarten o en el hogar". In : *Revista del Centro de Estudios Educativos*, vol. VII, nº 4, 1977.

14. G. Whelan et al., "El proyecto padres e hijos: un programa de educación familiar y comunitaria para el desarrollo del niño rural en Chile". In : *Educación Hoy*, vol. 7, nº 42, 1977. Language problems are among the most serious effects of socio-cultural deprivation as suggested by C. Gazmuru and G. Lopez. *Caracterización de algunos problemas de rendimiento escolar de niños en condiciones de privación psicosocial*. Thesis, M.Ed., Universidad Católica de Chile, Santiago, Julio 1978.

15. General Accounting Office (GAO). *Preventing mental retardation: what can be done*. U.S. General Accounting Office, 1977.

16. American TV series like *Sesame Street* and *The Electric Co.* broadcasted in developed and developing countries have been quite effective in raising readiness/achievement levels in areas such as: relating time and spatial concepts; sorting and selecting objects according to multiple criteria; drawing conclusions; identifying words in a sentence; recognizing words in several contexts; or naming letters.

for children to adapt to formal primary schooling. Some television series have been successful in training children in developing countries.[17] There is some criticism for possible side-effects in terms of cultural changes, but there are no feasible local alternatives.

- *Kindergarten enrolment*

Children who have had pre-school training perform much better in the first grade than those who have not; this was found in an evaluation research project carried out in Argentina, Bolivia, Colombia and Chile.[18] Furthermore, another research report suggests that rural primary schools that also have a kindergarten, have lower repetition rates than the average school,[19] and high inverse correlations have been detected between the number of pupils who attended pre-primary and first grade repetition rates.[20]

17. The longer the amount of time children spend watching television programmes the more they learn. Aptitudes more emphasized in the programmes are those most easily acquired. Younger children achieve higher results, but the programmes tend to increase the gap generated by social contexts (bridge effect). In an experiment carried out in Chile, 3 year-old children who watched Sesame Street performed better than 4 year olds who did not (Sonia Salas. *Analisis descriptivo de funciones básicas del niño chileno a través de un programa de televisión.* PIIE, 1975). Follow-up studies showed that after watching the programme children adapted more easily to the school environment. Although adult guidance was not required in those experiments, Mexican research suggests that parent reinforcement has positive effects (Diaz-Guerrero R.;Reyes, I.; Witzkem D.B.; Holtzman, W., "Plaza Sesamo in Mexico: an evaluation". In : *Journal of Communication*, vol. 26, nº 2, Spring 1976, pp. 145-154. See also: R. Diaz-Guerrero and W. H. Holtzman, "Learning by Televised Plaza Sesamo in Mexico". In : *Journal of Educational Psychology*, vol. 66, nº 5, 1974, pp. 632-643).

18. J. Filp and E. Schiefelbein, "Efecto de la educacion preescolar en el rendimiento del primer grado de primaria: el estudio UMBRAL en Argentina, Bolivia, Colombia y Chile". In : *Revista latinoamericana de estudios educativos*, vol. 12, nº 1, 1982, pp. 9-14.

19. Centro de perfeccionamiento, experimentación e investigaciones pedagógicas. *Efecto del kindergarten en la repetición observada en la educación básica fiscal.* Serie Estudios nº 2, July 1981.

20. A 0.78 correlation between the "percentage of students who attended preprimary" and the "first grade repetition rate" was observed in Chilean provinces. See J. Filp and C.L. Latorre. *Antecedentes sobre la educación prebásica en Chile.* CIDE, 1978.

In summary, in many countries the main quality problem seems to be related to first grade repetition. Research findings suggest that a few strategies implemented in the past have reduced first grade repetition, and spill-over effects may improve the whole system if they are applied in a massive way. Furthermore, success in the first grade should also have positive effects in the following grades by reducing premature negative results. The annual cost per student in these programmes may be close to the unit cost in primary education. Therefore, these strategies should be implemented in those countries where universal access to primary education has been achieved.

b. Strategies for increasing personal time allocated to learning

There are no studies on the amount of time allocated to learning, but attendance figures are relatively low and time devoted to personal study is also probably low (less than one hour per day on average). It has been reported that, of the enrolled Jamaican school population, only 65 per cent attends with a fair degree of regularity.[21] It may be assumed that values generated by tradition, motivation and aspiration affect the amount of time allocated to learning, as well as the use of time in class (span of attention) which will be discussed in the next section (4c). These values are related to the family's socio-economic status, but teacher's expectations also play an important role as well as self esteem.[22] Preventive and remedial strategies experimented with variable degrees of success are commented below. The first two strategies try to reduce early failure and keep students with their peers and friends as the most efficient strategy to avoid frustration and lack of interest. The third experience deals with recovering self esteem.

21. L. McKinley, "Adaptation of Impact's instructional and training methods in primary". In: *Teaching yourself in primary school*, IDRC, 1981, pp 29.

22. Pedersen, E.; Faucher, T.; Eaton, W. "A new perspective on the effects of first grade teachers on children subsequent adult status". In : *Harvard Education Review*, vol. 48, 1978.

- *Automatic promotion and modular evaluation*

In several Caribbean countries children are promoted by age and selected only for the entrance at the secondary level; in Colombia rural children are evaluated after each module, so they can continue to the next module when they return from temporary drop-out. In some Latin American countries, all students have also been granted automatic promotion to second or even up to fourth grade. For example, in 1971 Venezuela launched an automatic promotion in first grade, but in fact many students were attending the same grade in the following year. Costa Rica and Chile granted promotion to all students who attended more than a certain percentage of the annual schoolday schedule (trying to increase the time allowed to learn). Although, the impact in the short run of these norms was to reduce repetition by half, in the long run the increased awareness of repetition problems seems to have had other complementary effects: remedial classes and the use of class-mate tutors (as in the *escuela nueva*) reduce the achievement problems related to repetition. In other countries where promotion is based on age (such as the Caribbean countries), a large proportion of students may not really profit from school; for example, 53 per cent of primary school graduates in Jamaica were considered illiterate.[23] However, if teachers are trained to work by ability groups in their classrooms and text-books are available, achievement levels could be substantially improved.

- *Mass media campaigns on the right to learn*

Diffusion of research results showing that a change of teacher (and thus of teaching method) may be the best treatment for underachievers, that repetitions are related to early drop-out and that normal children only fail when the teacher's techniques are not suitable (and children with a low IQ should be treated in special schools in order to avoid further problems), together with promotion procedures that emphasize attendance with a fair degree of regularity, may produce

23. McKinley (1981), *op. cit.* See also: Haddad, Wadi D. *Educational and economic effects of promotion and repetition practices.* World Bank, Staff Paper n° 319, Washington, 1979.

higher levels of efficiency (at least in the long run).[24] As soon as Chilean teachers realized that they should not blame their students for their lack of training, the road for improvement was paved.[25] It is not possible to quantify the impact of these campaigns, but the cost is relatively small given that many public speeches and news releases are reproduced free of charge.

- *Recovering self-esteem*

Restructuring the curriculum in order to pay more attention to those areas in which the former repeater is strong, has been the key for the "school for success" programme to regain confidence as a previous step for academic success.[26] Remedial workshops operated with community volunteers or upper grades students have used role-playing, games and dramas mixed with some drills, to obtain extremely successful results. Over 80 per cent of the students with low academic achievement have been promoted each year.[27] It may be remarked that both experiences have been carried out at small cost and may therefore be reproduced on a massive level. The cost per student of such compensatory training is nearly the same as the unit cost of primary education.

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24. Bravo, L., "Educación básica y retardo sociocultural". In : *Revista de Trabajo Social*, n° 29, Universidad Católica, Santiago de Chile, 1979, pp 10-19. Bravo L. and Montenegro, H. *Educación niñez y pobreza. Dos estrategias para el desarrollo de ninos de extrema pobreza.* UNICEF, Ediciones Nueva Universidad, Universidad Católica de Chile, Santiago, 1977. Bravo, L. and Salas, S., "Características psicopedagógicas de escolares básicos repitentes". In : *Revista del Centro de Estudios Educativos*, 5 (4), 1975. Bravo L., *Estudio de deserción y repitencia escolar*, Programa de Educación Especial, Universidad Católica, 1978.

25. E. Schiefelbein, "Research, policy and practice: the case of Chile". In : *International Review of Education*, vol. 27, n° 2, 1981, pp. 153-162.

26. G. Castillo. *Proyecto escuela para aprender. Primer Informe.* CPEIP, La Barnechea, 1975.

27. L. Vaccaro and E. Schiefelbein. *Recuperación de niños con problemas de aprendizaje y formación de monitores a través de su participación en talleres comunitarios.* PIIE, Santiago, August 1981.

Student monitors in *escuela nueva* and the Student Council are also elements that help student participation in school activities. Selection of a few good students to help in grading tests tends to reduce the time the teacher spends on that work and when the teacher involves the students in special preparation for the grading, it tends to increase length of time the student perseveres on a task. This is a technique which should be further explored before using it in a massive way.[28]

In several Latin American countries (Chile and Peru, for example) teacher's salaries have been decreasing in real terms (purchasing power) as well as in relation to other professions. The reduction in salaries seems to affect teachers' morale negatively. If this is the case, it could affect student motivation, as well as lower the quality of instruction. On the other hand, some characteristics of the economic situation, such as the unemployment level, may stimulate some groups to make an extra effort, but force others to leave the school in order to help the family budget through begging or work.

In summary, motivation to increase the actual time students devote to learning may be fostered by reducing early failure. Mass media campaigns and automatic promotion based on the number of days attended during the school year should reduce such an early failure. These strategies should be complemented by remedial courses and tutoring provided by upper grade students.

c. Strategies for increasing the span of attention

Selecting attractive television spots and semi-programmed textbooks are two of the successful experiments carried out for increasing the span of attention, but reduction of anxiety and early failure may also play an important role in increasing the span of attention. *Sesame Street* evaluates the degree of attention paid to each of the short sequences by a sample of children (only one sequence in ten passes this attention test). Textbooks designed for *escuela nueva* usually direct students to start with observations from real life and then to describe and answer questions in order to get children interested in the work activities proposed in their modules. It is impressive to see *escuela nueva* students

28. M Barros. *Corregir pruebas, una experiencia agradable*. Cuadernos de Educación, vol. 13, nº 113, March 1981.

working with a high degree of concentration in their tasks. Collection of information on home recipes, short stories, riddles or description of labour activities is also designed to involve parents in the task of motivating the student to concentrate on task. Group work and emphasis on writing are also part of the *escuela nueva* approach to encourage expansion of the span of attention. Students in *escuela nueva* know the steps required to learn (observation, discussion, writing, additional reading on the same topic, and application in a new context or 'transfer' to a different situation), therefore their anxiety levels tend to be rather low.

d. Strategies for increasing the time allocated for learning the task

Government regulations, teachers' work traditions and economic pressures on students limit the time allowed to learn, in spite of research findings showing the impact of the school year length on achievement.[29] While in developed countries the school offers 200 to 240 schooldays per year, in urban areas of developing countries the school year may average 150 days (some 35 weeks less 20 holidays) and near 100 in rural areas. Many rural teachers live in a near city and can seldom afford to have their own means of transportation, therefore a lot of time is spent on travelling. Teachers travel to school on Mondays and work from Tuesday to Thursday, returning to the city on Friday.[30] Thus, 30 to 35 three-working-day weeks per year means 100 schooldays per year. Sometimes the teacher is asked to attend meetings in the inspector's office (inspectors do not have travel expenses, therefore rarely visit schools) or must go to cash the monthly or weekly pay check.

Only absenteeism for economic reasons or due to the way in which the school is operated, in other words not related to motivation or interest, will be considered in this section. Student absenteeism

29. E. Schiefelbein and J. Simmons. *The determinants of school achievement*. IDRC - TS24e, Ottawa, 1981, pp. 22 (Table 3).

30. Gelinas, J. "Los de afuera: indios y campesinos". In : P. Cariola (ed), *La educación en América Latina*, Ed. Limusa, Mexico, 1981 pp 87-113 (RAE 2067). See also: Sotomayor, S. "La comunidad de Tolten: elementos de educación familiar". In : *América indígena*, vol. 37, nº 4, 29, Mexico, 1977, pp. 927-935.

generated by economic pressures has its own dynamics. For example, in tropical countries there is always high absenteeism on 'banana day' (when the ships are expected to collect bananas). Incomplete schools also generate absenteeism because the student cannot attend school beyond a given grade (e.g. fourth grade).

Three strategies to increase the amount of time teachers spend at school and four strategies to increase time children are allowed to learn are presented below:

- *Use of local communities to pay teachers*

Mexico has successfully implemented a project that includes both on-the-job trained instructors ('monitors') selected among members of local communities and payment through local *patronatos* i.e. local committees that will make sure the teacher will work at the school during the whole weekly schedule.[31] The project also provides a set of textbooks and an instruction guide for the teacher to use those materials. The Mexican project operates mainly in small and isolated villages that only need one teacher, thus it is not known if the programme may be applied in other situations. There are no special costs associated with this strategy and benefits may go beyond the impact on school efficiency because it helps to organize the community.

- *Improvement of local supervision*

Selection, training and facilities for supervision may improve their effects. Sex of supervisors should be representative of the teaching staff, otherwise selection is constrained to too small a group and available talent is lost. Paraguay with resources from an IBRD loan provided light motor-cycles to supervisors that agreed to maintain those vehicles on their own. Given that gas expenditure for motor-cycles is relatively low, field supervision is now substantially more intensive than in the past. Further evaluation of this experiment should be carried out in

31. Consejo nacional de fomento educativo. Departamento de investigaciones educativas (DIE). *Manual del Instructor Comunitario*, Mexico, vol.2, pp 286 y 275. (RAE 1902). See also: Sharp, A. M. and Jetha, N. M. "Central government grants to local authorities: a case study in Kenya". In : *African Studies Review*, April 1970.

order to reproduce the experiment in other countries. In most countries, even when resources for supervision are budgeted, they cannot be used if restrictions for spending are issued later on or if additional authorizations are needed.

- *Adjustments on weekly or annual school schedules*

Small adjustments in schedules may improve attendance. Uruguay changed its daily schedule in rural areas: schools now start at 10.00 am instead of 7.00 am, in order to allow children to assist in farm activities before attending school.[32] The change has been very successful and it is now effective all over the country. In many countries the second shift in rural schools is devoted to the older pupils and to young pupils of the first shift with learning problems. In the Southern part of Argentina (Río Negro and Neuquén), longer vacations are given in winter time to avoid the problems of flooded dirt roads. In Cuba, the school year vacations are given during the 'zafra' period and the same happens with the harvest period in the coffee production zones of Costa Rica. Bolivia has successfully introduced a few 'itinerant' teachers who follow the migrant populations which move according to the harvest demands.[33] In spite of all these successful experiences, there are many countries that have rigid schedules which generate a high level of absenteeism and teachers unions do not approve to working a longer school year. All these changes of schedule do not imply increasing the educational budget; however they do necessitate carrying out small surveys on feasibility and flexible experiments.

32. Fernandez, L.E., "Repú2blica oriental del Uruguay". In : *Seminario multinacional de administración escolar*, Ministerio de Educación, Buenos Aires, November 1-14, 1980.

33. PREALC. *Empleo y recursos humanos en Bolivia*. Publicación n° 85, 1975, pp 1-7.

- *Remedial coaching for slow-learners*

There are many students of normal intelligence that could reach acceptable achievement levels if provided with a longer period of teaching. Summer vacation time has been used in several Mexican States to provide remedial teaching after which most of the students were promoted.[34] Two or three weeks' additional coaching have been experimented in Chile (along with several other measures) and have helped to cut repetition in half.[35] Student monitors in *escuela nueva* (mentioned above as a means of increasing motivation) are another alternative for remedial coaching. During the school year or after the normal period of examinations, teachers may concentrate in the small group of students with learning problems and work with them some extra time. Additional time has been included in Chile as part of the school year work, thus teachers do not receive an increment in their salaries, while, in Mexico, teachers receive an additional salary equivalent to one or two extra months. In urban areas only successful teachers (with few slow learners) should be hired for this extra work, otherwise teachers might artificially increase the number of slow learners in order to get the extra pay.

- *Flexible curriculum for slow learners*

If time is not enough for the learning tasks, one strategy is to cut down the learning tasks. maths and writing are two subjects that 'accumulate' skills in primary education (all other subjects start each year from scratch). Knowledge acquired in one grade is required to succeed in the next grade. If slow learners are allowed to concentrate only on these two subjects, they may keep abreast with the rest of their

34. McGinn, N., Orozco, G, and Street, S. *La asignación de recursos económicos en la educación pública en México. Un proceso técnico en un contexto político.* Fundación Javier Barros Sierra. Centro de Investigación Prospectiva, Mexico, August, 1980, p. 376.

35. E. Schiefelbein, "Research, Policy and Practice: the case of Chile". In : *International Review of Education*, vol. 27, n° 2, 1981, pp 153-162.

class and in certain cases even eventually manage to work the full curriculum.[36] Of course the curriculum itself may be improved in those two subjects.[37] Help of community volunteers in the drill of certain skills has been proved to be a valuable aid. There is no cost associated with this flexible curriculum strategy and it may substantially reduce repetition, particularly in the upper grades of the primary level.

- *Offering complete primary education through multigrades*

An additional way to stretch the time allocated to learning is to train rural teachers working in zones with too dispersed population, to work with several ability groups (or several grades) at the same time.[38] Thus, there will be a larger number of students (up to 25 students) in each classroom. There are many successful experiments of one-teacher primary schools in Latin America although written reports are only available for the *escuela nueva* massive application in Colombia.[39] However the condition for success seems to be that each student has access to one textbook. In fact, multigrade-teaching forces the teacher to individualize instruction (something that is difficult to do in graded classes) and to fulfill its role of tutor rather than transmitting information by himself (semi-programmed textbooks should tell students to observe or to do some work and then to answer questions or think and write

36. G. Castillo. *Curriculum universalista en la enseñanza básica.* Documentos de Estudio n° 50, Escuela de Educación, Universidad Católica de Chile, January, 1978. See also: S. Heyneman, *Planning the equality of educational opportunity between regions*, Education Department, The World Bank, 1979; and B. Bloom, *Human characteristics and school learning*, McGraw Hill, 1976.

37. In Chile the ability to reproduce the usual sounds of certain letters or groups of letters is a deciding factor concerning the promotion of first grade students to the second grade, and spelling is the key element for promotion in upper grades. Curricula that minimizes spelling problems has beeen designed for second to sixth grades of primary schools. J. Fernández y G. Lopez, *Programa experimental de ortografía aplicado a una muestra de estudiantes de enseñanza básica*, PIIE, 1977.

38. A large percentage of Americans attending primary schools at the beginning of this century attended one-teacher schools and no negative traits were observed in the drive and knowledge of that generation.

39. C. Rojas and Z. Castillo. *Evaluación del programna escuela nueva en Colombia.* Instituto SER, Bogota, December, 1987.

conclusions, if not available the teacher must prescribe to one group some work while he works with a different group). In addition multigrades help to increase the size of school and several pieces of research suggest that efficiency of school increases until a minimum size is reached (the threshold seems to be near 200 students in the elementary level).

- *Transportation for children living at a distance*

In some cases, just providing transportation can solve the problem of continuation for children living more than an hour on foot (3-4 km) away from otherwise suitable schools.[40] Handing out bicycles, for instance, either as a gift or as a loan, on certain conditions such as maintenance, can be an efficient means of helping children attend the nearest school. A bicycle can increase a child's radius of action to 12-15 km in less than an hour. Provision of a bicycle must also be made conditional on school attendance requirements. If public transportation is available, a subsidy could help those children from low-income families living outside the area covered by that system attend schools within a 30-km radius.[41]

Several other strategies have been tried, but their implementation must be further evaluated before being recommended as feasible strategies. For example, homework that provides the student a means of checking his/her results in order to receive a quick reinforcement seems to be an interesting alternative to evaluate. Also little is known about the effects of changes on teachers' salaries (increments or reductions) on the willingness to make an effort to solve their pupil's problems.

40. Research results in El Salvador and Uganda are not consistent on the effects of 'travel distance to school' on 'school achievement' (See S. Heyneman, *op. cit.*, pp 41/42). However, such results may be biased if students living far away travel to school in family-owned cars or belong to families of higher socio-economic levels.

41. J. Hallak. *The school map, an instrument of educational policy.* IIEP/Unesco, Paris, 1978.

e. Strategies for improving the quality of instruction

There are many experiments for raising quality and few evaluations. We really dealt with a 'black box'. Little is known yet about how instruction is really provided (except in carefully controlled situations). For example, the effect of teacher training on pupil achievement is not clear, although research findings suggest that some training is required. There are many interesting experiments on individualized instruction, but mainly at the university level. What is known, however, is that too many lectures are used in teacher training in comparison to the training given in any other university career. Therefore, future teachers are passively instructed in the theory of active teaching. Later on, they will probably use the same passive models they were trained with, i.e. transmission rather than discovery. In addition, entrance examinations to the next level usually constrain the use of more flexible curriculum. This is particularly true as regards the effect of university entrance examinations on secondary education curriculum, but it is also valid for lower levels. For example, there is a strong effect of the '11+' on the primary education in the Caribbean region, or the university entrance examinations on secondary education in Brazil, Costa Rica, Chile, Colombia or Venezuela. In many cases quality may not be affected unless changes in the structure of the system (including examinations) are introduced. In spite of the scarce amount of successful strategies in this area, four experiences have been singled out.

- *Measurement of academic achievement*

Several countries are measuring academic achievement at the end of high school and national averages are available to gauge the performance of individual schools.[42] In some cases the exercise has been reproduced in the elementary level.[43]

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42. There are testing services in Brasil, Colombia, Costa Rica, Chile and Venezuela.

43. Cabezon, E.; Rimasa, C.; Vergara, F. *Los efectos de la planificación de una estrategia de dominio de aprendizaje en el rendimiento de los alumnos, sus profesores y sus padres.* Paper presented to the Sexto Encuentro Nacional de Investigadores en Educación, CPEIP, Lo Barnechea, September 1981.

These measurements may provide a sort of automatic mechanism to keep some attention placed on quality of instruction (as defined by the examination). In certain cases, computation of averages by regions, schools or teachers may help to detect pockets of low quality. Its detection and solution represents in itself a way to improve the efficiency of the whole system. In addition these data may be used to identify the main factors related to low achievement and eventually to reduce its impact.[44] However, up until now, only a fraction of the available data has really been transformed into directly usable information.

- *Individualized instruction*

Several experiences of applying the Keller Plan approach to university instruction have proved to be quite successful.[45] Efforts to use formative evaluation schemes have also shown promising results at the primary level.[46] It is possible to envisage new experiences in this field given the diffusion obtained of Bloom's ideas throughout Latin America.[47] In the long run, training of teachers in an active way (providing future teachers with an opportunity for participating in a real life individualized instruction) may be the best way to improve the quality of instruction, but some time is necessary to experiment the idea,

44. ECIEL financed research projects in six Latin American countries in a comparative research on the determinants of school achievement. Main results were presented in *The determinants of school achievement: a review of the research for developing countries*, IDRC-TS24e, 1981.

45. Chadwick, C. and Magendzo, A., "Tecnología educativa en Latinoamérica y la instrucción personalizada en Chile: una visión panorámica". In : *Revista enfoques educacionales*, n° 4, Facultad de Educación, Universidad de Chile, Santiago, 1979, pp 42-51 (RACH 45).

46. CPEIP. *Análisis de las opiniones de los docentes que aplican el decreto 2038*. Serie Estudios N° 16, Lo Barnechea, November, 1981. See also: *Antecedentes de la aplicación de dos reglamentos de evaluación 1978-1980*. Serie Estudios N° 15, Lo Barnechea, September, 1981.

47. Bloom, B. (1976), *op. cit.*

to implement it and then to follow up the participants in their work as teachers. Therefore, it seems that this strategy requires a gradual implementation and may only have an impact in the long run.

- *Provision of textbooks to those who cannot afford them*

Several research findings suggest that a shortage of textbooks constrains the levels of achievement, especially for children of low socio-economic strata.[48] Ensuring that each child has the right textbooks and workbooks for the approved curriculum could be an important factor in reducing learning problems. Not only does it facilitate the teacher's actual teaching work by reducing the amount of time that has to be spent dictating or waiting while the children copy from the blackboard, it also enables the children to work at their own pace and place, at home as well as in class. More controlled experiments on the effects of textbooks are required, but at least in one of the first projects that massively provided textbooks to all primary students, repetition rates have been substantially reduced, although several other complementary policies against repetition were implemented at the same time that textbooks were provided.[49] More research is required on the effects of the types of books that may be provided (this aspect will be discussed later on).

- *Selecting and training school principals to become 'generators'*

A good principal has multiplier effects on his/her teaching staff.[50] Selecting good candidates could be highly rewarding. Training seminars and workshops for principals and their assistants, coupled with checklists of the effects of techniques in incentivating the work of teachers, have proved to transform school activities. It is necessary,

48. Farrell, J.; Sepulveda, M.; Heyneman, S. *Textbooks and achievement: what we know.* The World Bank, Education Department, 1978.

49. E. Schiefelbein (1981), *op. cit.*

50. There is fragmentary evidence on this factor. See for example: Castillo, G. *Formas de movilización de una población y una escuela con el objeto de mejorar el aprendizaje.* Thesis, Univ. Católica, Santiago 1973 (RAE 275); Unesco. *Nuevos pensamientos sobre alternativas en el curriculo y la tecnología educativa.* Orealc, Santiago, November, 1981, pp 37-41.

however, to prepare two or three leaders in each school, to work as the 'generator group'. Theoretical and practical work must be emphasized and, if possible, short courses should be provided in demonstration schools which try to ensure success for all children.

Other strategies may include reducing teacher rotation,[51] or the deliberate use of the 'Hawthorne effect' in order to get the staff interested in what they are doing. Identification of schools with the highest proportion of over-aged students may be useful for sending supervisors to the field and in finding ways to solve that problem.

Several experiments showed that unqualified personnel can be used to back teacher's work. These experiments have centred on parents,[52] however, other community members, including children in higher grades, could also provide valuable assistance while simultaneously gaining worthwhile experience for themselves. One of the activities in which such persons have been found to be specially effective is in providing special coaching for children with learning problems (remedial tutoring).[53] However, parents (especially mothers but also fathers) may be helpful in many other

51. Some research reports suggest that the rotation of teachers may have a negative effect on pupil achievement (See: Larry Wolff. *Why children fail in first grade in Rio Grande do Sul; implications for policy and research*, Human Resources Office, USAID, Rio de Janeiro, 1970). When absences or sick leaves are authorized during the school year, managers should be certain that substitute teachers taking those places are not working in another school, otherwise a chain effect is generated in the system. In any case substitute teachers are not as effective as the regulars. (See: New York Office of Education, Performance Review, *Teacher absenteism in New York City and the cost effectiveness of substitute teachers*, State Department of Education, Albany, N.Y., Enero 1974). If replacements are not permanent and do provide further advantages to compete for a future job in the same school, there will be less pressure for leaving a regular job and willingness to work as a substitute teacher.

52. Magendzo, A.; Messina, M.; Nissimm S.; Zúñiga, A.M. *Padres voluntarios*, Cuadernos de Educación, n° 40, CIDE, October 1974; G. Castillo. "El cuarto G". In : *Educación Hoy*, vol V, n° 30, 1975.

53. Other aspects of parents' participation are commented in: Nicholas Beattie, "Parent Participation in French Education, 1968-1975". In : *British Journal of Education Studies*, Vol XXVI, N° 1, Feb. 1978. See also: J. Cronin, "Parents and Educators: Natural Allies". In: *Phi Delta Kappan*, 59-4, 197.

activities.[54]

In short, a wide variety of experiments and research findings are available to help policy-makers look for new strategies and ways of reallocating resources. As noted in many of the experiments commented above, there are no costs (or at least very low costs) associated with many of the strategies identified here. Some strategies need only to be applied to the poorer segments of the population.

5. *Are the planners focusing on the right quality problems?*

The right quality problems can be selected when quality bottlenecks are identified and when the most efficient strategies for solving them are also identified. In general, the first grade quality bottleneck has not been identified in most countries due to misleading information (see comments in Section 2 above). Are short-term strategies, such as the lack of contact (time) between teachers and students or the shortage of textbooks, or both, key constraints and, therefore, constitute the basis for designing efficient strategies to solve the bottlenecks? The viability of long-range strategies such as early stimulation or pre-schooling as the right solution to be implemented in these countries, could also be questioned?

Several countries are now reallocating resources to primary education and there is an increasing interest for the design and implementation of management information systems (MIS). Both steps are in the right direction, but it also means that in many countries key problems are not yet properly defined.

Most of the additional resources may be obtained from savings in irrelevant factors. Case studies prepared for Paraguay and Chile suggest that the set of measures that could probably reduce detected problems, involve expenses lower or close to two per thousand of the gross domestic product (GDP) of each country. It is even possible to reduce that impact if the number of students per teacher is increased

54. Vaccaro, L.; Schiefelbein, E.; Yañez, C. "Una experiencia de participación de la familia en el proceso educacional: descripción de 17 actividades realizadas por apoderados en una escuela básica gratuita". In : *Educación Hoy*, vol. VII, n°s 37-38, 1977. See also: G. Castillo, "Las madres como centro del hecho educativo. Relato de una experiencia". In: *Educación Hoy*, vol. V, n° 30, 1975, pp. 27-64.

by 10 or 15 per cent, since this measure would have no significant negative effects on academic performance when traditional teaching methods are used.[55]

Educational systems constitute the largest industry in each country (2% to 8% of GNP). They are so large that they also suffer from tremendous inertia and therefore, changes are very hard to introduce. There are many resources that were useful at a certain time, but are no longer necessary. When resources are not really necessary, efficiency may be improved by simple elimination or reallocation of redundant elements. Three strategies are commented below:

- *Pre-school education to reduce repeater rates*

In order to reduce high repeater rates, pre-school education could be expanded at no cost if two single-aged population cohorts are enrolled in first grade. Pre-school education could be created in many primary schools (when space is available) as a 'pre-primary' grade in which the pupils could learn to live together, accept some minimal discipline procedures, master certain minimum motory skills (such as holding a pencil) and familiarize themselves with materials such as paper, glue, colours and the like.[56] This alternative would get around the problem of teachers still assuming that the children must master a minimum of reading and writing by the end of their first year in primary school. Since there are no examinations at the end of this preparatory year, the teacher would not hesitate to move up a child who was 'not quite ready' for the next grade. There would be greater freedom to help the children's interests and no pressure to complete a given programme in a fixed amount of time.

55. Inter-American Development Bank. *The financing of education in Latin America*, 1979, pp. 226.

56. E. Schiefelbein. "Seven strategies for improving the quality and efficiency". In : *Bulletin of the major project in the field of education*, n° 16, OREALC, Santiago, August, 1988.

- *Reducing vocational education*

At certain stages in economic development, some vocational training is required to prepare book-keepers, secretaries, printers, carpenters, plumbers, masons, mechanics and electricians. Later on, most of the training is provided on-the-job or requires a higher level of post-secondary training. However, secondary vocational schools continue to operate and keep training people who in fact will try to pursue university careers. Thus, vocational secondary education sometimes only means higher costs (usually twice as large) than the academic secondary education. Brazil, (*ensino profesionalizante* is now optional), Chile (vocational educational was reduced from 6 to 4 years in the 1965-70 reform), Peru (technical and vocational education is now being transferred to teaching training colleges or colleges of technology) and Venezuela, have recently reduced the vocational training by upgrading some schools to the post secondary level or transforming them into academic *liceos*. Considerable resources have been saved and the output seems to be better than before. For example, if it is assumed that the cost per student in secondary is 70 per cent of the cost per student in vocational secondary education,[57] a reduction of vocational secondary education liberates resources for an expansion of secondary academic education to twice as many students willing to pursue studies after graduating from high school than before.

- *Increasing the student/teacher ratio*

Several countries are increasing the student/teacher ratio according to research findings showing that achievement in traditional education is not affected by the number of students per class (in a certain range, for example between 30 and 45). For example, Chile increased average class size from 36 in 1965 to 39 in 1979 and Peru from 31,2 in 1975 to 37,4 in 1980. In several countries this policy has liberated resources for other factors (for example the provision of textbooks) and the final result might have an increment in quality. However, in other

57. E. Schiefelbein. *Education costs and financing policies in Latin America.* Discussion paper, Education and Training Series, The World Bank, EDT60, Washington, February, 1987 (Table 3).

cases the Ministry of Finance has diverted the savings made in the education sector to other non-educational purposes. It must also be taken into account that more advanced countries of the third world already have well-trained teachers and therefore should not apply this strategy because more students per teacher may prevent personalized instruction.

- *Provision of low-cost textbooks*

Several countries are providing textbooks, but the provision of textbooks is not always rational. Not enough attention is given to the type of textbook. For example, sometimes textbooks have too many pages. When students do not have textbooks, a good size for a first textbook may be 50 rather than 200 pages, because teachers have to get used to teaching with printed materials. If textbooks are used in the school, it may be enough to start with just one book for every two students. If loose leaves are used instead of a binding system, the cost per page may be reduced by half. Use of colours has a variable impact but on average may be around 20 per cent of the cost of single-colour materials. On the other hand the use of recycled paper instead of a bond paper may save 30 per cent of the cost. In the case of Peru, it was estimated in 1982 that the cost per page may vary from 0,63 soles per page to the usual standard of 2.10 soles depending on the strategy used to provide textbooks. Given that more countries are relying on the use of printed material, it is necessary to make the authorities aware that more textbooks can be distributed (and hopefully quality of instruction would be raised) if the decisions about production of textbooks are carefully made.

Many other strategies may also be explored. For example, deliberate attempts to increase the size of schools to above the minimum standards in order to use space, administration, library and other facilities to the full, should also be included here. This strategy can also be supported by evidence showing that small schools are not always related with better educational outputs.[58] As mentioned above, efforts to train

58. CPEIP. *Analísis de la repetición por grado en las escuelas básicas fiscales sin multigrados de Chile*. Serie Estudios n° 5, Lo Barnechea, December, 1981. See also: CPEIP. *Factores que inciden en la repetición del primer grado básico de educación*. Serie Estudios n° 14, Lo Barnechea, December, 1981.

teachers for working in multigrade schools will make it easier for the schools to offer attention in all elementary grades and may also help to reach a more efficient school size. Improvement of promotion rates (decreasing repetition) should also help to obtain larger school sizes with no additional costs.

6. *Do countries have mechanisms to design efficient policies?*

Implementation of educational strategies for increasing quality is sometimes an impossible task. Pressures that may generate a powerful national teacher's union may go beyond the educational system and have a considerable political impact. Lack of timely decisions, lack of suitable information or failure of a logistic support ensure that educational materials remain in warehouses while students sit down in the floor. Thus, increments in quality require four conditions: (i) a basic social agreement on the set of strategies; (ii) to allow local participation in day to day decisions; (iii) a management information system (MIS) to monitor advances in implementation; and (iv) support for further research that could provide feedback on quality levels and new determinants of achievement.

a. Basic social agreement

Raising educational quality is a long-term process and a basic social agreement is required to keep going towards the same target during a long period of time. Discussion of alternative proposals and agreements on key strategies with all parties involved must be carried out to obtain the basic support required for raising educational quality.

b. Local decisions: decentralization and "municipalización"

Decentralization of decisions that affect day-to-day activities or the transfer of schools to local authorities (*municipalidades* in the case of Latin America) have been considered by several countries as the main solution for the management of current national educational

systems.[59] Some new tasks have been given to local authorities in many Latin American countries (for example school construction in Venezuela and Peru) and half a dozen interesting experiments have been carried out in Latin America. The first attempt was done in Colombia by 1970. Although the initial attempt failed,[60] a more careful drafting of the *fondos regionales* in collaboration with staff of the Ministry working in each region, is now operating reasonably well.[61] However, some evidence suggests that large increases in local bureaucracies have been also registered. In 1988, a decentralization law increased the resources given more resources to the *municipalidades* and more educational activities are to be handled at that level.

The second experiment was carried out in Brazil and used the *municipio* as the local authority in charge. The municipios were not prepared to cope with the new tasks and a technical assistance agency, "Promunicipio", was created to help the municipios do the work.[62]

The Mexican government decentralized activities at the state level[63] and experimented with *patronatos locales* as discussed above. Argentina also gradually transferred schools to provinces and Costa Rica worked towards regionalization during the late seventies. The emphasis

59. Zagefka, Yannakolulos, Polymnia. *Eleven experiences in innovations in decentralization of educational administration and management of local resources.* Division of Educational Policy and PLanning, Unesco, Paris, 1980, 166 pp. See also: Garvey-Williams; El Haggaz, H. M. *Community participation in the provision of school facilities in Sudan.* Seminar for national specialists and Unesco experts in educational planning on the Mobilization of domestic resources for educational planning for formal and non formal education, Paris, Unesco June, 1978, 13 pp.

60. Teachers were appointed beyond the budgeted resources. Local managers were not familiar with education and did not receive training. Job applicants were selected in terms of kinship. Monthly funds were sent with substantial delays.

61. Mark Hanson. *Educational reform and administrative development. The cases of Colombia and Venezuela.* Hoover Institution Press, Stanford, 1986.

62. Sobrinho, José Amaral. *Una experiencia brasileña . El proyecto de coordinación y asistencia técnica de la enseñanza municipal (PROMUNICIPIO).* Unesco, OREALC, Informativo n° 2, Santiago, 1978, 40 p (RAE 1206).

63. Susan Street, is now working at the Fundación Javier Barros Sierra (Mexico), in the evaluation of the descentralization process at the state level.

in Costa Rica has been to engage as many local agencies as possible in the drawing-up of educational goals and in transferring activities that may be carried out by each regional authority.[64] The main effort has been to awaken interest in innovation and in local co-ordination.[65] Thus, it is difficult to evaluate its actual outcome. Since there are both enthusiastic supporters and strong opposers, we assume that some deep changes have taken place. All in all, teachers seemed to be more motivated and some improvement in the quality of instruction might have occurred.

The most recent experiment was implemented in Chile in 1981. Although, initially, the transfer was intended for those *municipalidades* willing to accept the schools, by the end of 1985 all elementary schools had already been transferred. Each *municipalidad* receives a monthly payment in accordance with the reported number of pupils attending classes. However, no supervision system is in operation to verify the actual number of students in each local school. Some *municipalidades* have bought expensive video tapes or language labs, created extra-mural activities, assigned time to teachers for grading or preparing exams, closed some schools and bused children to the nearest school, or shortened teachers' vacation time for in-service training. On the other hand, conflicts have arisen between local authorities and Ministry officials that are in charge of enforcing the common core national curriculum and 'technical norms of operation' of schools. Gradually a new organization is emerging and in each *municipalidad* some new jobs are being created and several consulting groups are helping the *municipalidades* in the development of each local educational operation. Still no evaluation has been attempted and it does not seem possible to estimate the final impact of these changes nor the amount of participation of parents or teachers in the shaping of the process. In fact it was hinted that this was an interim stage and that eventually schools

64. The Ministry was able to identify key needs and to assign priorities. See Ministerio de Educación Pública, Comité Técnico. *Prioridades nacionales para 1981.* San José, February, 1981.

65. Ministerio de Educación Pública. *Decreto de regionalización educativa.* Decree n° 11073 E-17, and D.E. n° 11848-E, San Jose, September, 1980.

would be transferred to the private sector, as was the case with vocational schools, both agricultural and industrial. However, this process stopped when municipalization was introduced.

Decentralization may generate increased in efficiency only if parents participate in local decisions. Otherwise 'consumers' have little power, given the monopolistic situation of schools since no other alternatives are available. On the other hand, local administration operating without some public control (for example if local authorities are government-appointed instead of locally elected) will probably result in more importance being given to criteria such as personal loyalty or government support rather than efficiency. In any case, small *municipalidades* with two or three primary schools, will not need a specialized staff to be hired.

Municipalidades may increase the subsidy per student with their general funds. This fact eliminates the provision of similar educational opportunities for all children. Those living in the richer counties will have substantial advantages. In addition there will be pressures to reduce expansion in isolated zones with higher operational costs given that there is a common subsidy (the areas with cheaper costs will tend to be provided for first). In this case even parent participation may tend to favour the more densely populated areas from which the representatives will surely be drawn.

Municipalization will promote diversity. This diversity may be responsive to individual and social needs, but it may also reduce the building-up of national identity if the Ministry is not able to monitor the implementation of a common core national curriculum (or to establish an examination system that determines local curricula). Municipalization will also define a market salary for teachers instead of a salary determined as a part of the civil service scale. There should be no large divergences from the average (if the government salary scale was sensitive to the real social prestige of the teaching profession), but there may be more opportunities for some teachers (the more able, the more especialized, the more loyal, those with more connections, with more supporters or with more managerial talents). Last but not least, it will be more difficult to organize national unions.

In summary, there is no way to foreseeing the outcome of the *municipalización* process. As many social processes it will unfold along with other aspects of social change. The value of the experiment may

depend on the generation of flexibility for further change. In fact such a change questions all traditional assumptions and forces to think afresh. Change represents an opportunity to reach higher levels of quality, but also can leave openings for selectivity and corruption.

c. Managment information system (MIS)

An efficient MIS must be implemented to monitor advances in implementation of selected strategies. Teachers' workload; over-aged students; annual attendance (time allocated for learning); temporary drop-out; true repetition rates; teacher turnover; and the like should be reported to high officials for them to monitor advances. Comparisons of payroll information by schools with enrolments is one of the key elements for reallocating teaching staff in order to increase quality.

d. Support for further research

Continuous improvement in the quality of education requires both the use of the MIS for reallocating resources in order to meet accepted targets, and the use of all information to update the targets themselves. Educational research is one of the main sources for obtaining feedback on quality levels and new determinants of achievement. Therefore, some investment on key research should be carried out by governments willing to increase quality of education.

7. Conclusions and recommendations

Latin American countries should be worried about quality of education. Both in terms of time wastage and resources (at least one billion dollars per year), and in terms of knowledge required to participate in future economic activities, the quality of education must be raised as soon as possible.

Although much has been said about the need to raise educational quality and important activities have been carried out, there is also evidence that countries are not fully aware of the magnitude of the problem and, therefore, the efforts needed to raise the quality of education are underestimated. Policy-makers have to implement activities directed to improve the quality of education, despite poor

relevant information and the lack of first-hand knowledge through the schooling of their own children (policy-makers usually send their children to private fee-paying schools and, therefore, do not have the opportunity of learning through them the quality problems affecting the public and free-private system).

There is no evidence that a suitable model is being used to reflect on quality; as a result, many isolated actions are carried out in the region and knowledge is not accumulated in a systematic way. Carroll's model is used in this paper to review available information. Eventually, a better model should be found. Such a model should be used by policy-makers for thinking about quality problems and feasible alternatives, therefore, it should include additional information about budget availabilities and relative costs of each of the factors or constraints. However, in the meantime, Carroll's model can be used as a useful tool to think about quality problems.

Lack of a systematic accumulation of the relevant available knowledge makes it difficult for policy-makers to use that knowledge. Relevant experiments related to each of the five elements of Carroll's model were reviewed in Section 4 in order to highlight key alterable factors of achievement, but most of these factors are not discussed by educational authorities. Although research findings and evaluation of experiments do not provide precise answers to quality problems, some promising strategies could be identified for each of the five elements related to academic achievement:

- Research findings suggest that four strategies implemented in the past have reduced first-grade repetition and spill-over effects may improve the whole system if they are applied in a massive way. Psycho-motor stimulation during early childhood; time during first grade to prepare children for formal training; training in basic skills; and preparation for living (or learning) in a group other than the family and for following behaviour guidelines from teachers are related to success in first grade. Furthermore, success in first grade should also have positive effects in the following grades by reducing premature negative results.

- Motivation to increase the amount of time students devote to learning may be fostered by reducing early failure. Mass media campaigns and automatic promotion based on the number of days attended during the school year should reduce early failure. These strategies should be complemented by remedial courses and upper grade student tutoring in order to raise self respect.

- Selection of the most attractive television spots and semi-programmed textbooks are two of the most successful experiments carried out for increasing the span of attention. However, reduction of anxiety and early failure may also play an important role in increasing the span of attention.

- Government regulations, teacher's work traditions and economic pressures on students, limit the time allowed for learning, in spite of research findings showing the impact of the school year length on achievement. In urban areas of Latin American countries, the school year may average 150 days (some 35 weeks less 20 holidays) and near 100 in the rural areas, while in developed countries the school year ranges between 200 and 240 days. Several strategies for extending the school year were discussed in the text (see Section 4d).

- There is a wide set of experiments and research findings that can help policy-makers to raise quality of education. As noted in many of the experiments discussed above, there are no, or very low, costs associated with many of the strategies proposed here (see section 4e). Some strategies would only be applicable to the poorer sections of the population. For example, efforts to train teachers for working in multigrades will make it easier for rural schools to offer the same attention for all elementary grades and may also help in reaching a more efficient school size. Improvement of promotion rates (decreasing repetition) should also help in reaching larger (more efficient) school sizes with no additional cost.

It is extremely difficult for the planners to discern precisely the causes for quality problems, in view of the poor information available and lack of detailed states-of-the-art on the quality of education. This will prove easier once the quality bottlenecks have been identified as well as the most efficient strategies for solving them. In general, the first-grade quality bottleneck has not been identified as the key problem, because of misleading information.

Even if the right problems are selected, countries must improve several mechanisms in order to implement efficient policies for raising quality. Implementation of educational strategies for increasing quality is sometimes an impossible task. Pressures that may generate a powerful national teacher's union willing to fight against a longer school year (in spite of a proportional increment in salaries) may go beyond the educational system and have a large political impact. Lack of timely decisions, shortage of suitable information or failure of the logistic support, result in educational materials remaining in warehouses while students sit down in the floor. Thus, in order to improve the quality of education, it is necessary to fulfill the following four final conditions: (i) a basic social agreement on the set of strategies; (ii) local participation in day-to-day decisions; (iii) the creation of a management information system (MIS) monitoring advances in implementation; and (iv) support for further research that could provide feedback on quality levels and new determinants of achievement.

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Although much has already been said and written about the need to improve the quality of education in the countries of Latin America and the Caribbean and important reforms have been implemented, there is evidence to suggest that countries in the region are still not fully aware of the magnitude of the problem and that, therefore, the efforts needed to raise the quality of education are underestimated.

In order to put the situation in perspective, this report sets out to answer the following five questions: (i) Are the countries really worried about the quality of education? (ii) Are they using the right model to review quality? (iii) Are policy-makers using the most relevant information available? (iv) Are planners focusing their attention on the right quality problems? (v) Do the countries have mechanisms to design efficient policies?

The report argues that it is extremely difficult for planners to discern precisely the causes of quality problems, in view of the poor information available and lack of detailed state-of-the-art reports on the quality of education.

The author concludes that countries must first overhaul some of their social mechanisms if they wish to implement efficient policies for raising quality. It is, he says, necessary to fulfil the following four conditions before embarking on policies designed for quality improvements: (i) a basic social agreement on the set of strategies; (ii) local participation in day-to-day decisions; (iii) the creation of a management information system (MIS) monitoring advances in implementation; and (iv) support for further research that could provide feedback on quality levels and new determinants of achievement.

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